

Research Article

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On the identities of some populations of *Neognopharmia* in SE Turkey (*Lepidoptera*, *Geometridae*, *Ennominae*)

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Abstract: On the identities of some populations of *Neognopharmia* in SE Turkey (*Lepidoptera*, *Geometridae*). *Cesa News* 141: 1-5, 16 figs. 1 Table.

Tympanal organs, male genitalia and abdominal sternites of *cataleucaria* are compared with *stevenaria* for the first time. Tympanal organs of both *Neognopharmia* species and male genitalia of *cataleucaria* are illustrated here for the first time.

Keywords: *Neognopharmia stevenaria*, *cataleucaria*, *Ennominae*, *Geometridae*, *Lepidoptera*, morphology, tympanal organ, male genitalia, fauna, Turkey.

Rajaei et al. (2012) stated that the genus *Neognopharmia* was represented more than one species, i.e., *stevenaria*. They also considered the taxon *cataleucaria* as a distinct species, which is originally described by Staudinger (1901) as a variety of *stevenaria*. However, they gave no evidence for their personal consideration. Upto the present time, no publication was made about *cataleucaria* (cf. Skou & Sihvonen, 2015).

Kemal & Koçak (2016) considered the *Neognopharmia* species from Bahçesaray (Van Prov.), and Nizip (Gaziantep Prov.) (Kemal & Koçak, 2017) as *stevenaria* temporarily. Kemal, Koçak & Uçak (2017) listed *Neognopharmia* from Dağlıca (Hakkari Province) as an unidentified species.

In order to clarify this issue, the genital morphology of the topotypical male of *cataleucaria* had to be investigated. For this purpose the authors visited this spring the vicinity of Mardin and obtained several *Neognopharmia* adults, which can be regarded as topotypes of *cataleucaria*.

After comparing the male genitalia and abdominal sternites of the species under discussion, we came to the conclusion that *cataleucaria* is different from *stevenaria* (Table 1). For that reason,

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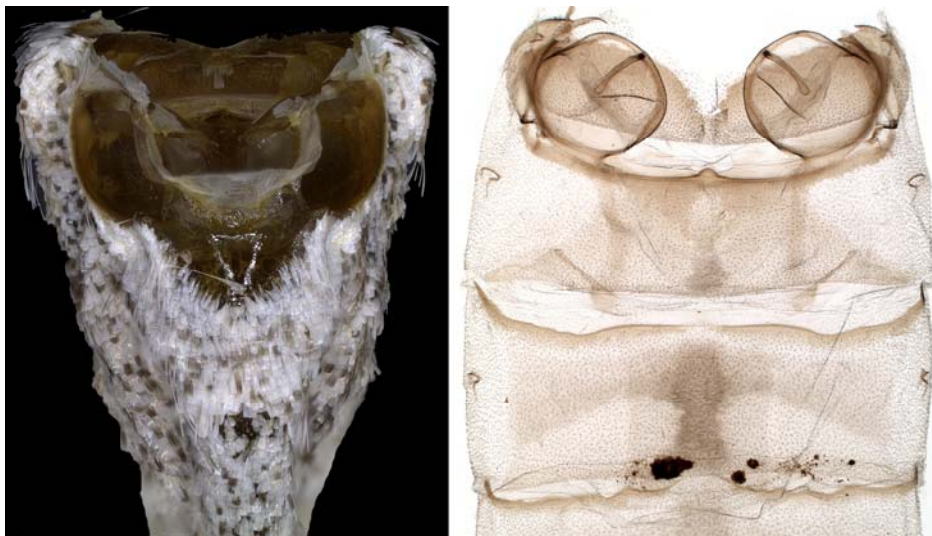
we confirm here Rajaei's opinion about the distinctness of *cataleucaria* specifically. Furthermore, the new information on the male genitalia of typical *cataleucaria* reveals that the population of Dağlıca (Hakkari Prov.) belongs to *cataleucaria*, while *Neognopharmia* species from Nizip (Gaziantep Prov.) and Bahçesaray (Van Prov.) to *stevenaria*. Underside of the wings of both taxa are without dark band.

Below, the tympanal organs of *Neognopharmia*, and the male genitalia of *cataleucaria* are illustrated for the first time.

***Neognopharmia stevenaria* (Boisduval, 1840)**

Material studied: 1♂ South Turkey, Gaziantep Province, Nizip, GP2703. M.Kemal & A.Koçak leg.; 2♂ Van Bahçesaray Liman 2320m 16 7 2017, GP2704, M. Kemal leg.(Cesa).

This species is widely distributed in Central and East Turkey. Externally it cannot be identified from *cataleucaria*; however, the genitalia of the male carry remarkable structures, which can be reliably used for discrimination.



Figs. 1, 2 - *Neognopharmia stevenaria*, from Gaziantep Prov. Nizip. Tympanal organs of the male, GP2703. Before preparation (left), after preparation (right). M. Kemal (Cesa).



Figs. 3, 4 - *Neognopharmia stevenaria*, from Gaziantep Prov. Nizip. The male genitalia (left), and the 8th abdominal segment, GP2703. M. Kemal (Cesa).



Figs. 5, 6 - *Neognopharmia stevenaria*, from Van Prov. Bahçesaray. Tympanal organs of the male, GP2704. Before preparation (left), after preparation (right). M. Kemal (Cesa).



Figs. 7, 8 - *Neognopharmia stevenaria*, from Van Prov. Bahçesaray. The male genitalia (left), and the 8th abdominal segment, GP2704. M. Kemal (Cesa).

***Neognopharmia cataleucaria* (Staudinger, 1901)**

Material studied: 2♂ SE Turkey: Mardin Prov., Artuklu, Akreştâ Pass 1150m (47Da), 3 5 2017, GP2700♂; 5♂ Mardin Prov., Artuklu, Sultanköy 1.7km E. 1050m (47Dc), 15 5 2017, nocturnal, all M. Kemal & A.Koçak leg. (Cesa). A long series of 41 ♂♀, *cataleucaria* Stgr. from Dağlıca (Hakkari Prov., SE Turkey) between April and late August 2017. H. Uçak leg. GP2702♂, GP2707♂, GP2708♂.

Among the Dağlıca material there are several specimens, with dark marginal band on the upper -, and underside of both wings. This is simply an individual or seasonal variation, as their male genitalia have no difference from the specimens, without marginal band.

This species is apparently confined to the mountainous territory of the border provinces of SE Turkey (Mardin and Hakkari Provinces).



Figs. 9, 10 - *Neognopharmia cataleucaria*, from Mardin Prov. near Mardin (topotype!). Tympanal organs of the male, GP2700. Before preparation (left), after preparation (right). M. Kemal (Cesa).



Figs. 11, 12 - *Neognopharmia cataleucaria*, from Mardin Prov. near Mardin (topotype). The male genitalia (left), and the 8th abdominal segment, GP2700. M. Kemal (Cesa).



Figs. 13, 14 - *Neognopharmia cataleucaria*, from Hakkari Prov. Dağlica. Tympanal organs of the male, GP2702. Before preparation (left), after preparation (right). M. Kemal (Cesa).



Figs. 15, 16 - *Neognopharmia cataleucaria*, from Hakkari Prov. Dağlıca. The male genitalia (left), and the 8th abdominal segment, GP2702. M. Kemal (Cesa).

Table 1 – Some diagnostic features of the male between *Neognopharmia stevenaria* Bsd. and *cataleucaria* Stgr.

Features	<i>stevenaria</i>	<i>cataleucaria</i>
inner margin of ventral arm of valva	with a few larger spines (Figs. 3,7)	with more but smaller spines (Figs. 11, 15)
tip of ventral arm	outward curved (Fig. 3, 7)	not curved (Figs. 11, 15)
lobes on posterior margin of 8th abdominal segment	prolonged, terminally round and outwards curved, slightly sclerotised (Figs. 4,8).	shorter, slightly pointed, not curved, more sclerotised (Figs. 12, 16).
position of ansa	directed to the middle of tympanal cavity (Figs. 2, 6).	directed to upper part of tympanal cavity (Figs. 10, 14).

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